AGDEX

MANITOBA COMMERCIAL HOG IMPROVEMENT PROGRAM

ANNUAL REPORT 1980-81

MANITOBA
AGRICULTURE

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ANNUAL REPORT
1980, 1981

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MANITOBA AGRICULTURE

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TABLE OF CONTENTS

		Page No.
General Summary		1
CHIP Procedures and Services		2-4
Table 1.	Number of Gilts Tested by Region, 1975-1981	5
Table 2.	Summary of CHIP Testing, 1980	5
Table 3.	Summary of CHIP Testing, 1981	5
Table 4.	Hog Marketings of CHIP Herds by Agricultural Region, 1980 and 1981	6
Figure 1.	Hog Marketings of CHIP Participants Compared to the Provincial Average	7
Table 5.	Levels of Sow Productivity-Related Traits in Nine CHIP Herds, 1980	8
Table 6.	Levels of Sow Productivity-Related Traits in 13 CHIP Herds, 1981	8
Table 7.	Improvement in Sow Productivity Levels for Five CHIP Herds, Jan. 1, 1980-Dec. 31, 1981	9
Table 8.	Average No. Pigs Born Alive, No. Born Dead, No. Weaned and Preweaning Mortality by Parity in Eight CHIP Herds, Jan. 1978-May, 1980	9
Table 9.	Percentage of Total Sows Culled by Reason in Nine CHIP Herds, Jan. 1978-May, 1980	10
Table 10.	Herds Participating in CHIP Probing Service, 1980 and/or 1981	11-14
Table 11.	Herds Participating in CHIP Records Analysis Service, 1980 and/or 1981	15

GENERAL SUMMARY

The total number of producers participating in the CHIP probing service in 1980 remained unchanged from the 1979 level of 38. The number of gilts tested in 1980 decreased by 11 per cent in comparison to 1979. During 1981, the number of producers increased to 43 while number of gilts tested declined another 17 per cent compared to the 1980 level. The decrease in numbers tested over the past two years occurred in every agricultural region except the Interlake and Northwest regions where testing increased in 1980 and then declined in 1981. In comparison to 1979, the number of participants in 1980 and 1981 increased in the Central, Interlake and Southwest regions while declining in the Eastern region, and remaining stable in the Northwest region. In 1980 and 1981, 12 and 18 new producers respectively joined the program. The percentage of herds testing more than 50 gilts annually decreased in 1980 to 32 per cent from the 1979 level of 45 per cent. In 1981, this figure remained basically unchanged at 33 per cent. Quality of hog marketings for CHIP herds continued well above the Provincial average for both 1980 and 1981. The percentage of hogs indexing 102 or higher in CHIP herds was 14.6 and 12.8 percentage points higher than the Provincial average for 1980 and 1981 respectively.

The number of herds participating in the CHIP Records Analysis Service rose from 9 in 1979 to 14 in 1980. A total of 6 new producers joined the program in 1980. In 1981, participation showed a further increase to 19 producers with 9 new producers.

CHIP PROCEDURES AND SERVICES

The Commercial Hog Improvement Program (CHIP) began in 1973 and was implemented in the Province's five agricultural regions as follows:

1973 - Interlake
1974 - Central, Eastern, Southwest
1976 - Northwest

The program is aimed at developing commercial producers on a total management approach to swine production. Major emphasis is placed on improving carcass quality and sow productivity.

Ultrasonic Probe Service

CHIP aids in the selection of lean, growthy replacement females through an ultrasonic probe service. Backfat thicknesses are measured by ultrasonic soundwaves at four points over the loin. Measurements are taken when a gilt weighs between 75 kg and 105 kg. The average of the four measurements is adjusted to a standard 90 kg weight. Gilt age is also calculated at the time of weighing and adjusted to obtain the number of days taken to reach 90 kg.

These two performance values are combined into a composite score or selection index. The index allows a producer to compare the tested gilt's combined performance with the average performance of other gilts of the same breed tested in the herd during the last 12 months. Selection indexes greater than 100 indicate above-average performance.

The CHIP ultrasonic probe service was provided by the following people:

Individual	1980 Number Visits	1980 Number Gilts Tested	1981 Number Visits	1981 Number Gilts Tested
Roger Berard Livestock Technician Manitoba Agriculture St. Pierre, Man. Phone: 433-7749	48	840	35	686
Brian Cotton Livestock Specialist Manitoba Agriculture Brandon, Man. Phone: 728-5724	1	51	4	23
Rick Dryden Agriculture Canada Brandon, Man. Phone: 725-3717	3	73	0	0

Individual	1980 Number Visits	1980 Number Gilts Tested	1981 Number Visits	1981 Number Gilts Tested
Hugh Greaves Livestock Technician Manitoba Agriculture Somerset, Man. Phone: 744-2013	21	203	23	201
Earl Hjelte Livestock Specialist Manitoba Agriculture Carman, Man. Phone: 745-2005	2	30	0	0
Ivan Janzen Agriculture Canada Brandon, Man. Phone: 728-7597	9	105	33	468
Hector McLean Agriculture Canada Brandon, Man. Phone: 728-7597	16	398	2	25
Ole Olsen Livestock Specialist Manitoba Agriculture Swan River, Man. Phone: 734-3417	12	169	7	146
Maurice Sigurdson Livestock Technician Manitoba Agriculture Arborg, Man. Phone: 376-5212	41	614	37	520

Supplies and Record Forms

The Animal Industry Branch provides record-keeping materials and forms to CHIP participants including:

a) ear notchers for litter and individual identification

b) farrowing calculators

c) a complete binder of permanent record forms that includes inventory listings, as well as management and performance information on individual sows and litters

d) individual sow cards for use in the farrowing barn

e) sow herd record booklets

f) informational factsheets on record-keeping

Records Analysis Service

CHIP producers submit a complete inventory of their breeding herd every six months. Activity sheets detailing all breedings, farrowings and weanings, together with gilt additions and sow disposals, are completed and submitted monthly. The sheets are analyzed by the Animal Industry Branch, and a summary of the month's production is returned to the producer, together with results obtained by other herds on the program. After one full year, a 12 month rolling herd average for each production trait is calculated and included in subsequent monthly summaries. Herds are given target production levels based on:

- 2.20 litters per female per year
- 18 pigs weaned per female per year
- 25 per cent culling rate

Upon enrollment, a producer is assigned a number which becomes the herd identity on all report forms.

Management Assistance

Regional staff involved with CHIP assist producers in establishing a record-keeping system and interpreting performance information for selection of gilts. Staff also advise on management practices and new developments in the swine industry.

Table 1. Number of gilts tested by region, 1975-1981.

Year/Region	Central	Eastern	Interlake	Northwest	Southwest	Province
1975	445	98	33	0	316	892
1976	141	77	507	69	125	919
1977	410	339	658	182	206	1795
1978	504	646	365	197	520	2232
1979	820	931	216	89	733	2789
1980	233	840	621	169	620	2483
1981	201	686	520	151	511	2069

Table 2. Summary of CHIP testing, 1980.

Number Pigs Tested Per Farm	Number of Herds	Per Cent of Herds	Total Pigs Tested	Per Cent of Pigs
Less than 20	7	18	70	3
20 - 50	19	50	637	26
51 - 100	6	16	460	18
101 - 200	3	8	354	14
201+	3	8	962	39
Total	38		2483	

Table 3. Summary of CHIP Testing, 1981.

Number Pigs Tested Per Farm	Number of Herds	Per Cent of Herds	Total Pigs Tested	Per Cent of Pigs
Less than 20	16	37	188	9
20 - 50	13	30	419	20
51 - 100	10	23	741	36
101 - 200	2	5	215	10
201+	2	5	506	25
Total	43		2069	

Table 4. Hog Marketings of CHIP Herds by Agricultural Region, 1980 and 1981.

Herds participating in the CHIP probing service in 1980 and 1981 produced hogs of superior quality compared to the overall Manitoba average. In 1980, the difference in percentage hogs indexing 102 or higher for CHIP herds was 14.6%, while in 1981, the difference was 12.8%.

REGION	CHIP PARTICIPANTS				HOG MARKETINGS OF CHIP PARTICIPANTS					
	No. Producers		No. Gilts Tested		No. Marketed ≥102 Index		Total No. Marketed		Percent ≥ 102 Index	
	1980	1981	1980	1981	1980	1981	1980	1981	1980	1981
EASTERN	12	8	840	686	8199	3260	11107	3957	73.8	82.4
INTERLAKE	10	13	621	520	4500	6965	6489	9354	69.3	74.5
CENTRAL	5	9	233	201	1652	4202	2367	6070	69.8	69.2
SOUTHWEST	6	8	620	511	15719	24672	20706	29696	75.9	83.1
NORTHWEST	5	5	169	151	988	2286	1415	3567	69.8	64.1
TOTAL	38	43	2483	2069	31058	41385	42084	52644	73.7	78.6
							MANITOBA AVERAGE		59.1	65.8

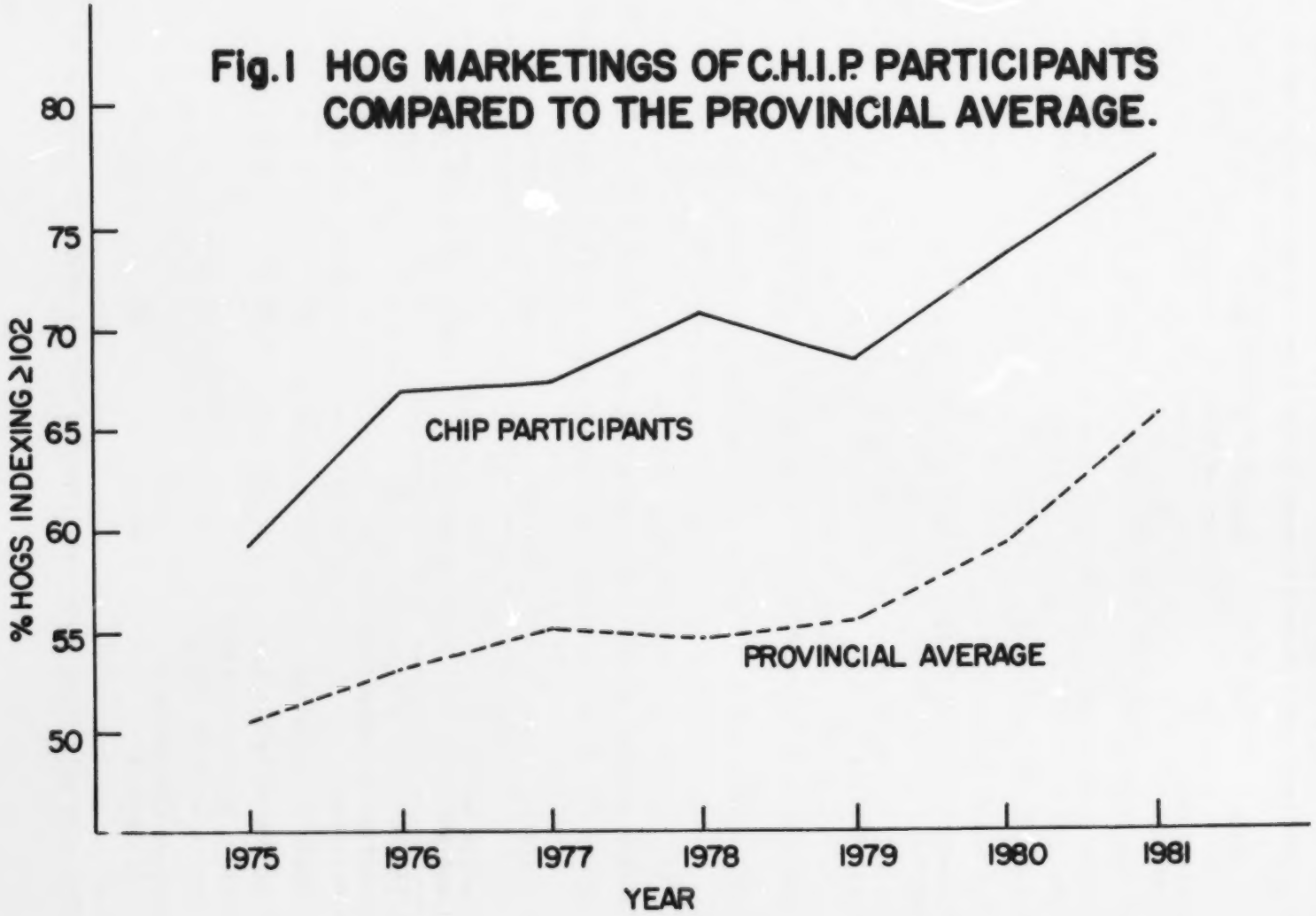
Fig.1 HOG MARKETINGS OF C.H.I.P. PARTICIPANTS COMPARED TO THE PROVINCIAL AVERAGE.
% HOGS INDEXING ≥ 102
80
75
70
65
60
55
50
CHIP PARTICIPANTS
PROVINCIAL AVERAGE
1975
1976
1977
1978
1979
1980
1981
YEAR

REPRODUCTIVE PERFORMANCE IN CHIP HERDS

Table 5. Levels of sow productivity-related traits in nine CHIP herds, 1980.*

Trait	Average	Performance Levels Highest	Lowest	Difference
Average Herd Size (Sows and Gilts)	90	159	22	-
Litters/Female/Year	1.98	2.22	1.49	0.73
Live Pigs Farrowed/ Female/Year	19.19	24.72	14.52	10.20
Preweaning Mortality (%)	20	26	12	14
Pigs Weaned/Female/Year	15.32	19.20	11.88	7.32
Average Weaning to First Service Interval (Days)	10	16	6	10
Percent Conception at First Service	87	93	79	14

*Includes only those herds participating for six months or longer as of December, 1980.

Table 6. Levels of sow productivity-related traits in 13 CHIP herds, 1981.*

Trait	Average	Performance Levels Highest	Lowest	Difference
Average Herd Size (Sows and Gilts)	94	165	29	-
Litters/Female/Year	2.00	2.36	1.49	0.87
Live Pigs Farrowed/ Female/Year	20.76	24.84	16.08	8.76
Preweaning Mortality (%)	14	20	10	10
Pigs Weaned/Female/Year	17.16	20.28	12.36	7.92
Average Weaning to First Service Interval (Days)	9	12	6	6
Percent Conception at First Service	88	92	80	12

*Includes only those herds participating for six months or longer as of December, 1981.

A total of seven herds have utilized the CHIP Records Analysis Service for two years or longer. The following table shows the changes that have occurred in levels of sow productivity in five of these herds. Data for the remaining two herds were excluded because of depopulation and extensive changes in facilities over the past two years in those herds.

Table 7. Improvement in sow productivity levels for five CHIP herds, January 1, 1980 - December 31, 1981.

Item	Herd					Average
	A	B	C	D	E	
Additional Live Pigs Farrowed/Female/Year	4.32	2.52	3.36	3.60	1.80	3.12
Additional Pigs Weaned/Female/Year	4.08	1.58	3.96	2.16	0.96	2.55

The following table summarizes information by parity for 2,483 litters from eight different CHIP herds participating in the service for a minimum of six months as of May, 1980. The data were gathered over the period of January, 1978 to May, 1980. The results show that sows have generally reached their maximum reproductive performance by their sixth parity.

Table 8. Average number pigs born alive, number born dead, number weaned and preweaning mortality by parity in eight CHIP herds, January, 1978-May, 1980.

Parity	Average No. Born Alive/Litter	Average No. Born Dead/Litter	Average No. Weaned/Litter	Preweaning Mortality (%)
1st	9.1	0.4	7.6	17
2nd	9.9	0.5	8.2	17
3rd	10.4	0.7	8.4	19
4th	10.8	0.7	8.5	21
5th	10.9	1.0	8.6	21
6+	10.5	1.2	8.1	23

CULLING STATISTICS IN CHIP HERDS

Two items monitored by the CHIP Records Analysis Service are number of sows culled in each herd, and the reason for each culling. The following table presents a summary of this information for the nine CHIP herds which were utilizing the service during the period of January, 1978 to May, 1980. These herds culled a total of 548 sows and gilts from a collective population of 1,400 breeding females, for a culling rate of 39.1 per cent.

Table 9. Percentage of total sows culled by reason in nine CHIP herds, January, 1978 - May, 1980.

Reason	Percent of Total Culls
Anestrus	18.1
Old Age	15.1
Non-Pregnant	14.8
Others, (Disease, Died)	13.9
Lameness, Leg Injury	10.4
Low Milk Production	9.1
Low Litter Size	8.2
Repeat Breeding	6.9
Abscesses	1.9
Abortions	0.9
Mastitis, Prolapse Uterus	0.7

The following are the herds in each agricultural region which participated in the CHIP Probing Service during 1980 and 1981. Also listed are the number of times a technician visited each producer for probing (number of visits) and the total number of gilts tested by the producer.

Table 10. Herds participating in CHIP Probing Service, 1980 and/or 1981.

Producer	Address	1980 Number Visits	1980 Number Gilts Tested	1981 Number Visits	1981 Number Gilts Tested
Central Region					
Funk, A.	Box 285 Morden, ROG 1JO	0	0	4	44
*Grift, E.	Swan Lake, ROG 2SO	4	34	2	24
Hermart Farms	Box 48 Rosenort, ROG 1WO	6	43	2	31
*Holloway, B.	Box 175 Sperling, ROG 2MO	3	23	2	23
Poiron, C.	Box 313 Somerset, ROG 2LO	0	0	5	28
Rance, V.	Box 129 Sperling, ROG 2MO	0	0	1	9
Remple, P. F.	Box 1108 Altona, ROG 0BO	0	0	1	4
Shirtliff, H.	Starbuck, ROG 2PO	7	79	5	30
Waddell Bros.	Box 965 Portage la Prairie R1N 3C4	0	0	1	8
Waterston, D.	Box 82 Pilot Mound, ROG 1PO	3	54	0	0

*New in 1980.

Producer	Address	1980 Number Visits	1980 Number Gilts Tested	1981 Number Visits	1981 Number Gilts Tested
Eastern Region					
Bouchard, A.	Box 127 Dominion City ROA OHO	2	33	5	61
Bourbonnais, R.	R.R. 1 Beausejour, ROE OCO	0	0	1	16
Dueck, L.	Box 81 Elma, ROE OZO	8	107	3	64
Friesen, G. N.	Box 7 Arnaud, ROA OBO	7	79	5	78
*Friesen, J.	Box 6 Arnaud, ROA OBO	3	22	0	0
*Linden Hog Farm	Box 12, R.R. 1 Landmark, ROA OXO	3	99	0	0
Panych, W.	Box 24 Hadashville, ROE OXO	1	30	1	40
Pauls, W.	Box 82 Arnaud, ROA OBO	2	9	0	0
Penner, A.	Box 89 Elma, ROE OZO	4	30	0	0
Penner, P.	R.R. 4 Beausejour, ROE OCO	3	46	8	111
Penner, V.	Box 7 Elma, ROE OZO	7	229	9	259
Pukalo, M.	Box 72 Beausejour, ROE OCO	2	28	0	0
Toews, J.	Box 5 Elma, ROE OZO	6	128	3	57

*New in 1980.

Producer	Address	1980 Number Visits	1980 Number Gilts Tested	1981 Number Visits	1981 Number Gilts Tested
Interlake Region					
Barkman, M.	Riverton, ROC 2RO	5	119	4	84
*Brandt, A.	Box 387 Riverton, ROC 2RO	1	9	0	0
Forsyth Farms	Stonewall, ROC 2ZO	12	239	4	97
Gonske, A.	Box 7, Grp. 55, S.S.1 Winnipeg, R3C 2E8	0	0	1	3
Harcus Farms	Stonewall, ROC 2ZO	2	29	3	53
Jacobson, L.	Box 355 Arborg, ROC OAO	0	0	1	16
*Johnson, G.	Box 123 Fraserwood, ROC 1AO	1	5	0	0
Kjear, H. N.	Box 663 Stonewall, ROC 2ZO	5	43	2	21
Main, H.	Box 35 Balmoral, ROC OHO	0	0	2	37
*Olafson, K.	Box 97 Arborg, ROC OAO	3	20	4	27
R & T New Century Farms	Box 33 Matlock, ROC 2BO	4	45	0	0
Reimer Farms	Box 406 Fisher Branch, ROC OZO	0	0	3	46
*Reimer, J.	Box 518 Arborg, ROC OAO	4	43	1	12
Shackleford, K.	Clandeboye, ROC OPO	0	0	2	14
Smith, M.	Box 72 Argyle, ROC OBO	0	0	1	13
Van der Zweep, T.	Balmoral, ROC OHO	6	69	9	97

*New in 1980.

Producer	Address	1980 Number Visits	1980 Number Gilts Tested	1981 Number Visits	1981 Number Gilts Tested
Northwest Region					
Bernardin, R.	Box 23 Laurier, ROJ 1AO	0	0	1	48
BWG Ventures	R.R. 4 Grandview, ROL OYO	0	0	3	67
Froese, D.	R.R. 1 Grandview, ROL OYO	0	0	1	11
Henderson, L.	Box 70 Minitonas, ROL 1GO	6	80	0	0
*Jeffrey Farms	Bowsman, ROL OHO	1	13	0	0
Larocque, A.	San Clara, ROL OTO	3	47	2	15
*Popp, K.	Box 158 Birtle, ROM OCO	1	8	1	10
*Warkentin, M.	R.R. 1 Grandview, ROL OYO	1	21	0	0
Southwest Region					
Deerboine Colony	Alexander, ROK OAO	0	0	3	83
Gibb, C.	Box 6 Nesbitt, ROK 1PO	0	0	3	20
Hillside Colony	Box 6 Justice, ROK 1CO	2	38	1	16
Newdale Colony	Souris, ROK 2CO	12	494	11	247
Plett, L.	Box 11, R.R. 1 Wawanesa, ROK 2GO	3	8	4	18
Plett, L. K.	Wawanesa, ROK 2GO	4	18	3	18
*Souris River Colony	Box 153 Elgin, ROK OTO	1	20	0	0
Trotter, B.	Box 57 Belmont, ROK OCO	5	42	12	104
Wellwood Colony	Dunrea, ROK OSO	0	0	1	5

*New in 1980.

Table 11. Herds participating in CHIP Records Analysis Service, 1980 and/or 1981.

Name	Address	Year of Participation 1980	1981
Central Region			
Friesen, J.	Box 861, Altona, Man. ROG 0B0		X
*Funk, A.	Box 285, Morden, Man. ROG 1J0	X	X
Grift, E.	Swan Lake, Man. ROG 2S0		X
Isaac, J.	Box 1164, Altona, Man. ROG 0B0		X
Lachance, C.	Elie, Man. ROH 0H0	X	X
Sawatsky, J.	Box 983, Altona, Man. ROG 0B0		X
Thiessen, G.	Box 520, Grp. 36, R.R. 1 Winkler, Man. ROG 2X0		X
Toews, I.	Box 1472, Altona, Man. ROB 0G0		X
*Waddell Bros.	Box 965, Portage la Prairie, Man. R1N 3C4	X	X
Eastern Region			
Barkman, D.	Box 1, Grp. 20, R.R. 1 Steinbach, Man. ROA 2A0	X	X
*Penner, L.	Box 62, R.R. 2, Ste. Anne, Man. ROA 1R0	X	
Peters, E.	Box 56, Randolph, Man. ROA 1L0	X	X
Peters, V.	Box 56, Randolph, Man. ROA 1L0	X	X
Pukalo, M.	Box 72, Beausejour, Man. ROE 0C0	X	
*Sawatsky, R.	Box 56, Randolph, Man. ROA 1L0	X	X
Interlake Region			
*Forsyth Farms	Box 819, Stonewall, Man. ROC 2Z0	X	X
*Riese, P.	R.R. 1, Selkirk, Man. R1A 2A6	X	
Westphalia Farms	Box 22, Grp. 11, R.R. 1 Winnipeg, Man. R3C 2E4	X	X
Northwest Region			
Nicholson, O.	General Delivery, Dauphin, Man. R7N 2T3	X	X
Popp, K.	Box 158, Birtle, Man. ROM 0C0		X
Southwest Region			
Douma, W.	Forrest, Man. ROK 0W0	X	
Gibb, C.	Box 6, Nesbitt, Man. ROK 1P0		X
Rolfe, D.	Box 60, Elgin, Man. ROK 0T0		X

*New in 1980.

By Authority of Hon. Bill Uruski
Minister of Agriculture
Province of Manitoba